

Ranch Plan Fire Protection Program

Orange County

OVERVIEW

REGION

Southern California

POPULATION

1.7 million

TOOL TYPES

Fire Protection Plan

LEAD AGENCIES

*Public Works Department
(Development Services),
Fire Authority*

CLIMATE IMPACT AREA

Wildfire Resilience

SUMMARY

In 2007, the Ranch Plan Fire Protection Program (RPFPP) was approved for the planned community of Rancho Mission Viejo in the County of Orange. The program, collaboratively designed by the Rancho Mission Viejo developers, the Orange County Fire Authority (OCFA), and the County of Orange Public Works Department, serves as an all-encompassing regulatory document that replaces countywide fire protection standards with requirements for the Ranch. The program also includes responsibilities for County and OCFA in terms of plan-checks and reviews.

The RPFPP illustrates a unique, comprehensive approach for master-planned communities to process all emergency access and fire safety issues associated with proposed development. The program also allows requirements to be renegotiated to reflect new state or local legislation, updated science, of other changes to local conditions.

This case study was selected as a Wildland-Urban Interface (WUI) Planning Best Practice because it highlights how master-planned communities can be developed and implemented with fire protection requirements that address hazardous vegetation, structural vulnerabilities, public safety, emergency access, and more. This case study also shows how the design of this fire protection plan took an adaptive management approach to accommodate changes at the state and local levels. Finally, this case study shows the success of communication and collaboration between a developer, fire authority, and county department to achieve shared outcomes of fire resilience and risk management.

A Fire Protection Plan is a document prepared for a specific project or development proposed in the WUI. This plan describes ways to minimize and mitigate potential losses from wildfire exposure, such as through vegetation and fuel management (including defensible space), adequate emergency access, identification of approved water supply sources, WUI building standards, and ongoing maintenance. Fire protection plans can be required under a jurisdiction's fire code or other municipal code chapter.

TOOL DESIGN

In 2004, the County of Orange Board of Supervisors approved a general plan amendment, zone change, and development agreement to establish a comprehensive land development and conservation plan for more than 22,000 acres of land remaining in the historic Rancho Mission Viejo. The plan, known as the “Ranch Plan,” set the stage for the future development of residential homes (including affordable housing), senior living facilities, businesses, schools, and supporting infrastructure; when fully built out, the Ranch will have more than 14,000 housing units. The plan also ensured that the majority of the project area would remain undeveloped and managed in its natural condition, a key component of its final approval.

Another key part of the approval process was for the developer to prepare an RPFPP. This program

replaces all existing County of Orange Standard Conditions and OCFA Guidelines that are adopted by Ordinance, with fire protection standards, fuel modification requirements, and conditions of approval for all proposed development in the Ranch. The RPFPP does not replace, but does modify, some specific regulations in the California Building Code and does not replace nor modify the California Fire Code or other state standards.

Fire master plan guidelines in the RPFPP include criteria for fire access roadways (e.g., secondary emergency vehicle access, fire lanes, grades), premises identification, gates, hydrants and water availability, building construction features, interior landscaping and more. The RPFPP also requires automatic fire sprinkler systems for all structures (with limited exceptions).

Each applicable fire master plan must identify two science-based classifications for development areas: Radiant Heat/Ember Mitigation and Ember Mitigation Only. These two classifications are based on a development's location within the Ranch and proximity to fuel modification zones. All construction within the Ember Mitigation Only zone requires special construction features for venting, decks, and ornamental vegetation to address ember intrusion; in areas also vulnerable to radiant heat, additional special construction features are required for walls, windows, and decks.

Although a Ranch Plan Planned Communitywide Preliminary Fuel Modification Plan was approved for the peripheral edge of all ranch development planning areas, each new master plan area must also gain approval for a fuel modification plan specific to its project area. Fuel modification zones located directly adjacent to private parcels are required to be 110 feet wide, unless adjusted based on fire modeling, and consist of three zones with associated requirements:

Zone A - Setback Irrigated Zone (20 feet wide)

Zone B - Irrigated Zone (50 feet wide)

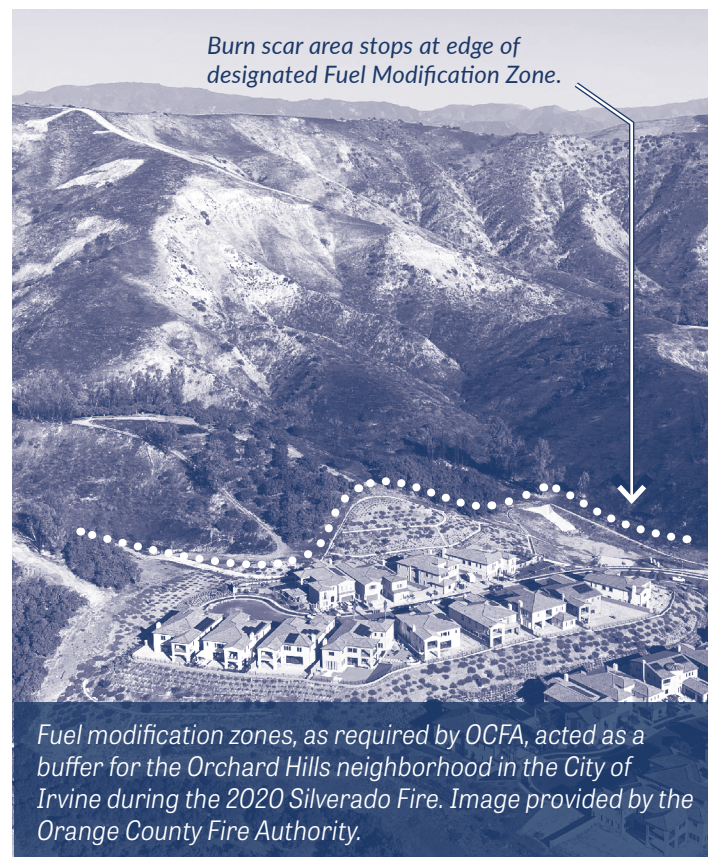
Zone C - Thinning Zone, Non-irrigated (40 feet wide)

IMPLEMENTATION

Permits and plans submitted for approval by the Rancho Mission Viejo developers are reviewed for compliance with standards established within the RPFPP. The County of Orange Public Works Department and the OCFA both have responsibilities for plan-checks and inspections, depending on the type of permit, plan, or inspection.

The RPFPP is also structured with a mechanism for revising the Ranch fire protection and fuel modification requirements as local and state regulations related to wildfire change. For example, a previous alternative development standard in the plan allowed greater spacing between hydrants in exchange for installing sprinklers in all structures. This is no longer modified as current fire code and state regulations have changed.

The RPFPP will continue to be updated as local and state regulations change, including new state requirements for ember-resistant zones, Fire Safe Regulations, and more.



COLLABORATION & ENGAGEMENT

The success of the RPFPP can be attributed to the ongoing support and collaboration between the Rancho Mission Viejo, LLC, the OCFA, and the County of Orange Public Works Department. One example of ongoing collaboration is in the inspection and maintenance of fuel modification and vegetation management. The RPFPP stipulated the creation of a Ranch Plan master maintenance corporation (Rancho MMC) that is responsible for annual inspections and all maintenance of Fuel Modification Zones within the Ranch. These areas are inspected annually to confirm compliance with approved plant types, vertical and horizontal grouping and spacing, replanting dead and dying vegetation, and the removal of undesirable species.

INNOVATIONS

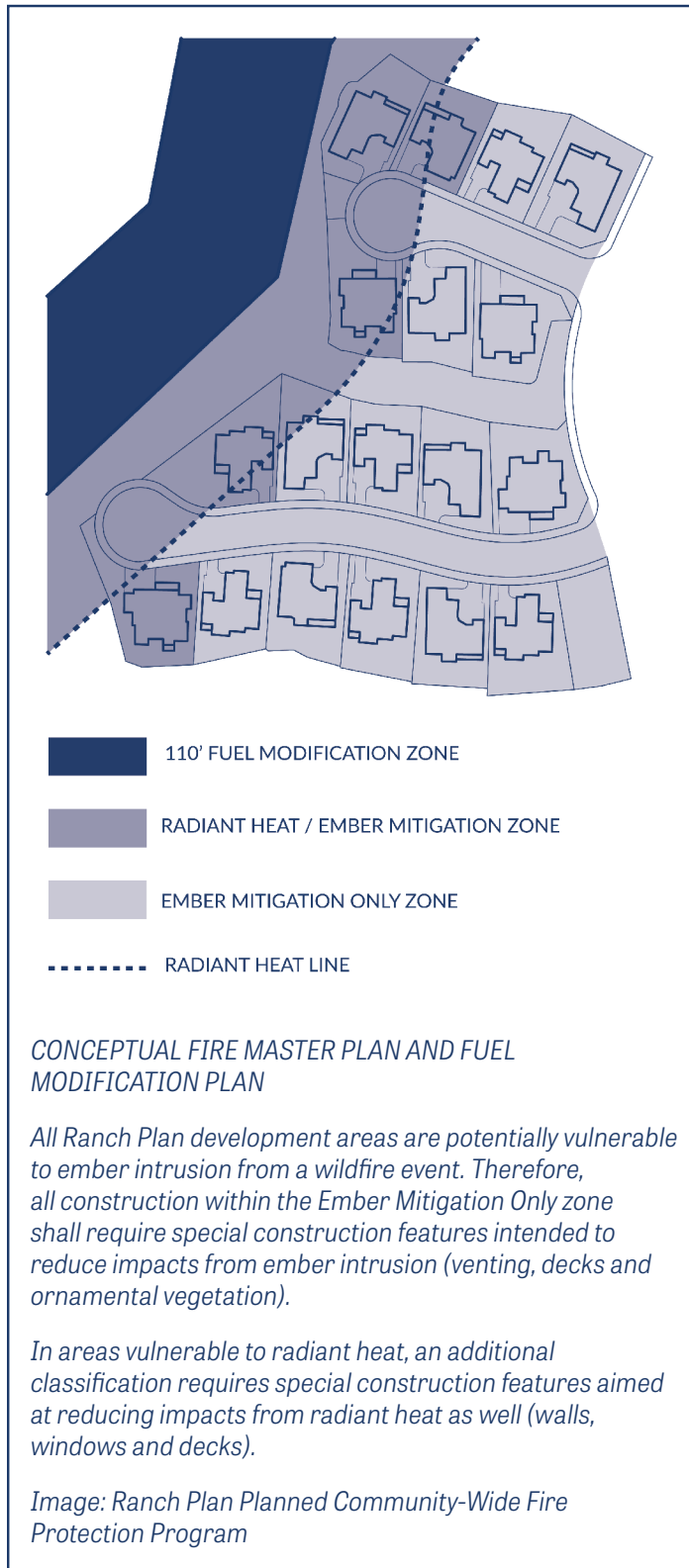
The RPFPP offers a flexible approach with multiple benefits. The plan can be updated when state legislation gets passed, ensuring ongoing compliance with any new state requirements. In addition, alternative development standards within the plan help the developer and the County of Orange achieve wildfire risk reduction outcomes when modifications are needed to account for local needs. Alternative development standards are allowed so long as the outcome of the alternative meets certain performance standards and has specific project benefits that would be impossible to obtain under standard conditions.

Alternative development standards exist for road and street layouts, including curb-cuts, roundabouts, intersections, medians, and neighborhood entryways while maintaining fire



Irrigated vegetation along a slope in the community of Rancho Mission Viejo is inspected annually to ensure compliance with the Fuel Modification Zone maintenance requirements. Image provided by the Orange County Fire Authority.

access per state regulations. Project benefits may range from enhancing residential ambiance to better ongoing maintenance costs. The flexibility of alternatives allows both the County and the developer to adjust and re-adjust requirements for subsequent phases of development.



FUNDING SOURCE

OCFA costs associated with administering the fire protection planning process, including initial permit and plan approvals, and inspections, are cost-recovered through permit application fees. Rancho Mission Viejo is also funding two new fire stations in the plan area. Any administrative costs for the Public Works Department (including updating and tracking amendments to the RPFPP, development review or permitting) is funded through a reimbursement agreement with the Ranch Developers that also guarantees expedited plan reviews.

ADDITIONAL CONSIDERATIONS

REPLICABILITY

For communities considering adopting a comprehensive fire protection plan for planned communities, the County of Orange's process offers key insights:

1. *Changes may be necessitated by science, legislation, or even unanticipated events such as economic downturns based on updates to the regulatory landscape. Creating strong collaborative partnerships and adding flexible mechanisms to open the approved plan and negotiate changes among signatories helps adapt the plan to these changing conditions while keeping fire safety at the forefront.*
2. *Creating performance-based alternatives to standards also allows for modifications based on site constraints or other factors while still achieving the intended outcomes.*

RESPONDING TO DATA, STATE REGULATIONS, & CLIMATE CHANGE IMPACTS

California's Fourth Climate Change Assessment [Los Angeles Regional Report](#) acknowledged that climate projections indicate there could be a 60% increase in area burned as a result of Santa Ana driven wildfire events, and a 75% increase in non-Santa Ana driven events in the Los Angeles Region by the mid-21st century under a higher GHG emissions scenario, including in the County of Orange.

Although the Ranch has not directly experienced any structure losses, other fires in the region, including the 2020 Bond Fire, destroyed nearly 31 structures and damaged a further 21, underscoring the ongoing need for fire protection standards. As noted, the RPFPP will continue to be updated to reflect local and state regulations, including ember-resistant zones (AB 3074, Fire prevention: wildfire risk: defensible space: ember-resistant zones) and any applicable changes to the State's Fire Safe Regulations (SB 901).

FURTHER INFORMATION

For further information regarding the typical fire protection planning process please visit the [Orange County Fire Authority's Development Services Webpage](#), and for information regarding Ranch Mission Viejo please visit [OC Public Works, Development Services webpage hosting Ranch Plan documents](#).

This case study is part of a series of Wildland-Urban Interface (WUI) Planning Best Practices. Each case study focuses on a specific planning tool (or set of tools) that a community is utilizing to reduce risk and build resilience to wildfire across the state of California. This project is part of [California Climate Investments](#), a statewide initiative that puts billions of Cap-and-Trade dollars to work reducing greenhouse gas emissions, strengthening the economy, and improving public health and the environment – particularly in disadvantaged communities.

